



Medicine for Managers

Dr Paul Lambden BSc MB BS BDS FDSRCS MRCS LRCP DRCOG FIHSCM

How Old Is Your Heart?

The simple answer is that your heart is the same age as the rest of you. True, of course, but it is well known that patients, particularly men, who are poorly educated, have a low income and also those from a variety of minority groups, have a “heart age” which is much older than their calendar age would indicate. Researchers at the North Western University in Illinois have been working on a simple system to calculate the actual “heart age”.

The reason that they have been engaged in this work is to provide a simple mechanism by which the state of the heart and the risk experienced by patients will help them understand the status of the heart and act as a basis for helping them to reduce risk factors for heart disease.

Currently patients may be told that, for example, they have a 12%, 10-year cardiovascular risk and that information for many may be relatively meaningless.

The researchers looked at a range of parameters to calculate the “heart age”, including patient smoking status, blood pressure, cholesterol level and whether they are diabetic.

From these and other factors, fed into the paradigm, they could make the calculation such

that, for example, a man of 55 might be told that he had a heart age of 68. The hope is that explaining the poor heart health in this way might prompt the patient into action to reduce the risk.

Racial and ethnic factors resulted in even more significant cardiac age gaps. Black men had a heart age 8.5 years older than their true age.

The concept of the aging heart is not new and various other methods have been designed to try to measure cardiac deterioration beyond chronological years of age.

A University team, led by cardiologist, Dr Sadiya Khan, tested their tool designed to make the assessment on more than 14,000 United States adults aged between thirty and seventy-nine with no past medical history of cardiovascular disease.

Their findings were significant, not to say somewhat alarming. They found, on average,

that women in the survey had a chronological age of **51.3 years** but a heart age of **55.4 years**. The findings for men painted an even worse picture with a greater disparity. The average chronological age was **49.7 years** but the average heart age was **56.7 years**.

Socioeconomic factors were a profound indicator, including education and income.

They discovered that, amongst those who were only educated up to age 18 or below, more than one-fifth of women and nearly one-third of men had a heart age more than 10 years older than their chronological age.

Racial and ethnic factors resulted in even more significant cardiac age gaps . Black men had a heart age 8.5 years older than their true age, for Hispanic men it was 7.9 years, for Asian men it was 6.7 years and for white men it was 6.4 years.

The corresponding age disparity for women were 6.2 years for Black women, 4.8 years for Hispanic women, 3.7 years for White women and 2.8 years for Asian women.

The data gives an insight into the nature of the cardiac status of large numbers of Americans and the product of living in today's less than healthy society. The authors felt that talking about "heart age" rather than about 10-year risk estimate was a more effective way to bridge the gap between knowledge of risk and engagement in actions to improve health.

They have produced a tool to make a prediction of Heart Age which, they emphasise, is designed to be used by physicians and cardiologists to inform their interaction with the patients.

Encouraging the appropriate lifestyle changes or treatment to reduce excess risk.

The factors in the tool are:

- Sex
- Age
- Total blood cholesterol
- HDL Cholesterol (good cholesterol)
- Systolic blood pressure
- Diabetes (yes or no)
- Smoking (yes or no)
- Estimated Glomerular Filtration Rate
- (estimate of kidney function)
- Antihypertensive medication (yes or no)
- Statin medication

The evidence is that the system is effective and it may become part of the examination tools used in the UK.

[The information produced by Dr S Khan et al was published in the Journal of the American Medical Association on July 30th 2025].

paullambden@compuserve.com